

Claims

1. An iterative character recognition method employing a database of predetermined character strings, the method comprising the steps of:
  - (a) receiving a digital representation of a character string;
  - (b) generating a proposed result string by applying a predetermined recognition routine to the received digital representation, the predetermined recognition routine including a recognition subroutine employing an initial parameter setting;
  - (c) determining whether the proposed result string matches any of the predetermined character strings;
  - (d) if the proposed result string does not match any of the predetermined character strings, adjusting the initial parameter setting of the recognition subroutine; and then
  - (e) repeating steps (b) and (c) to generate a next proposed result string and to determine whether the next proposed result string matches any of the predetermined character strings.
2. The method of claim 1 further including the step of repeating steps (d) and (e) until reaching a termination condition.
3. The method of claim 2 wherein the termination condition is the proposed result string matching any of the predetermined character strings.
4. The method of claim 2 wherein the termination condition is an expiration of a predetermined duration of time.
5. The method of claim 2 wherein the termination condition is a completion of a predetermined number of repetitions of steps (d) and (e).
6. The method of claim 2 wherein the predetermined recognition routine is a magnetic ink character recognition routine.
7. The method of claim 2 wherein the predetermined recognition routine is an optical character recognition routine.
8. The method of claim 7 wherein the optical character recognition routine is a multi-line optical character recognition routine.
9. The method of claim 7 wherein:  
the optical character recognition routine is for mail processing;  
the character string is a mailing address; and  
the predetermined character strings are known mailing addresses.

10. The method of claim 9 wherein the recognition subroutine is chosen from a group consisting of an address block location subroutine, an image enhancement subroutine, a segmentation subroutine, a feature extraction subroutine, a character selection subroutine, a confidence subroutine, and a handwriting recognition subroutine.
11. The method of claim 10 wherein:  
the recognition subroutine is the character selection subroutine;  
the initial parameter setting references a first character set; and  
the adjusted parameter setting references a second character set.
12. The method of claim 10 wherein:  
the recognition subroutine is the address block location subroutine;  
the initial parameter setting is a first Boolean value instructing whether to use a predefined address block location assumption; and  
the adjusted parameter setting is a second Boolean value instructing whether to use the predefined address block location assumption.
13. The method of claim 10 wherein:  
the recognition subroutine is the segmentation subroutine;  
the initial parameter setting is a first Boolean value instructing whether to use a heuristic segmentation algorithm; and  
the adjusted parameter setting is a second Boolean value instructing whether to use the heuristic segmentation algorithm.
14. The method of claim 1 wherein adjusting the initial parameter setting includes selecting a next parameter setting.
15. The method of claim 1 wherein the step of determining the proposed result string match includes using fuzzy logic.
16. The method of claim 1 wherein the digital representation is a digital image.
17. A method for defining an iterative character recognition routine for use in a self-orthogonal character recognition engine, the method comprising the steps of:  
designating a recognition subroutine for inclusion in the recognition routine;  
selecting a first parameter setting and a second parameter setting for the recognition subroutine;  
securing access to a database of acceptable result strings; and

implementing control logic whereby the first parameter setting is used to generate a first proposed result string, the first proposed result string is matched against the acceptable result strings in the database, and, if the first proposed result string does not match the acceptable result strings in the database, the second parameter setting is used to generate a second proposed result string.

18. A self-orthogonal character recognition engine comprising:  
a recognition subroutine having a plurality of parameter settings for processing an input string;

a configuration file designating an order of use for the plurality of parameter settings;

an interface for validating a proposed result string against a database of acceptable result strings; and

a character recognition routine for selecting a result string by invoking the recognition subroutine to employ the plurality of parameter settings, one at a time according to the designated order of use, to generate a corresponding plurality of proposed result strings; implementing the interface to validate each of the corresponding plurality of proposed result strings; and selecting as the result string a validated proposed result string validated by the interface.

19. The character recognition engine of claim 18 wherein the database of acceptable result strings is operated independent of the self-orthogonal character recognition engine.

20. The character recognition engine of claim 18 wherein the database of acceptable result strings is external to the self-orthogonal character recognition engine.